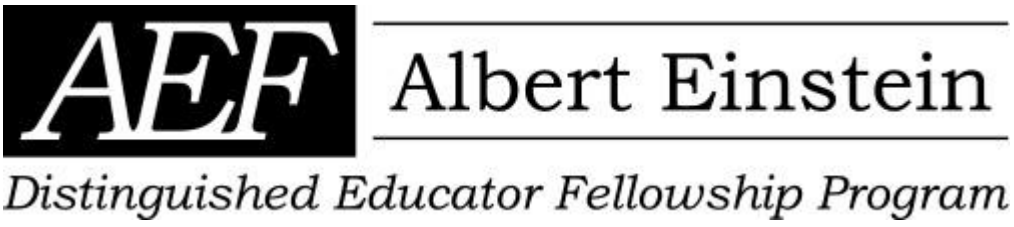

Summary Report
2012-2013 Fellowship Year

Prepared by the U.S. Department of Energy, Office of Science
Office of Workforce Development for Teachers and Scientists

Program Overview

The Albert Einstein Distinguished Educator Fellowship (AEF) Program provides a unique opportunity for accomplished K-12 educators in the fields of science, technology, engineering, and mathematics (STEM) to serve in the national education arena. Fellows spend eleven months, beginning in September of each year, working in Federal agencies or in U.S. Congressional offices, bringing their extensive knowledge and classroom experience to education program and/or education policy efforts.

The AEF Program, now in its 23rd year with 225 alumni, operates under the Albert Einstein Distinguished Educator Fellowship Act of 1994 (Pub. L 103-382). The legislation states that the Department of Energy (DOE) administers the AEF Program including recruitment, application and selection, and overall management.

The AEF Program is designed to meet the following objectives identified in the legislation: 1) to provide outstanding elementary and secondary STEM education teachers the opportunity to bring to Congress and appropriate branches of the federal government the insights, extensive knowledge, and practical experience of classroom teachers; 2) to increase the understanding, communication, and cooperation between Congress and Federal agencies; and 3) to increase the understanding, communication and cooperation between the federal government and the STEM education community.

The Federal science agencies that host Fellows have as part of their goals to support STEM education to help ensure a future workforce is sufficiently prepared to contribute to the emerging science and technology fields. Fellows are placed in education offices where they provide insights during project conceptualization and assistance with established programs. The Congressional offices that host Fellows, sponsored by DOE, have either a strong STEM portfolio or want to increase their portfolios within their offices.

Overview of the 2012-2013 Participants, Federal Agencies, and Congressional Offices

Twenty-six educators were selected for the 2012-2013 Cohort of AEF Fellows:

- Number of high school teachers: 20
- Number of upper elementary and middle school teachers: 6
- Number of states represented by the Fellows: 16
- Number of Fellows who have been teaching more than 10 years: 19
- Number of Fellows who were teaching at public schools when selected: 24

The Fellows were selected by the following Agencies and Congressional Offices:

- U.S. Department of Energy: 3
- National Aeronautics and Space Administration: 2
- National Oceanic and Atmospheric Administration: 1
- National Science Foundation: 16
- Congresswoman Danny Davis, IL: *1

Congressman Mike Honda, CA: 1*
Senator Mark Begich, AK: *1
Senator Richard Durbin, IL: *1

*DOE sponsored the four Congressional placements.

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Program Scope

*Fellowship Support***

All Fellows receive a monthly stipend of $7,000, which is paid by the sponsor offices. Additionally, Fellows can request to receive up to $3,000 for travel and fees associated with their professional development during the Fellowship. All current benefits for are available on the program website: http://science.energy.gov/wdts/einstein/.

*Application***

The on-line application is located on the DOE website at: http://science.energy.gov/wdts/einstein/. Interested educators can access the application from mid-August through mid-November.

The application consists of three sections:

- Questions highlighting educational background, professional experience, professional activities, awards and publications;
- Five essay questions; and
- Three letters of recommendation, one being from a school district official.

The responses to the questions on the application are used to assess the eligibility of the application. While most of this information is fact-specific, it provides a way to make both a quick and qualitative evaluation when compared with the responses in the essays.

*Application Review and Selection***

The application review, selection, and placement process is communicated in detail and posted on the AEF web page: http://science.energy.gov/wdts/einstein/how-to-apply/application-review-and-selection-process/.

Positions Descriptions

Host offices interviewing selected candidates, the semi-finalists, must have, in advance of the interviews, a one-page position descriptions that detail the work load requirements and planned responsibilities within the office. The semi-finalists can then gauge their interests and capabilities in the positions and determine the best fit for their individual needs.

Contributions to the Host Offices

Fellows are regularly recognized for making significant contributions to their host offices. Most of this is managed and guided by position descriptions under the guidance of host office supervisors.

The Fellows in each cohort are usually a collaborative group and are encouraged to share ideas and work together to expand upon tasks and inevitably deliver projects beyond expectation. Position accomplishments are observed by program management during the four required "reports and presentations" due throughout the Fellowship.

Fellows' Professional Development
Fellows are required to establish individual professional development plans designed around high-level goals that combine to advance the knowledge and skills of the Fellows. These plans help the Fellows identify goals and objectives and establish "actions" that will contribute to the achievement of the high-level goals.

The professional development resources available to Fellows from science agencies, STEM policy experts, advocacy organizations, and other STEM education stakeholders may not exist at this level at any other time in their career. The establishment of a plan with milestones will help ensure a valuable experience both within and outside their host offices and into the future.

Outcomes
Fellows complete the AEF Program with a portfolio of opportunities to share with colleagues and students. The portfolios include information on: undergraduate and graduate internships, scholarships, the national research infrastructure supported by the Federal government, how to compete for grants, the latest research on advancing STEM education, and opportunities that inspire students towards STEM careers.

The experiences gained are personally and professionally valuable, and subsequently shared with colleagues. By gaining a clearer understanding of educational issues at the national and local level, Fellows become recognized leaders for the ability to convey substantive information and influence the future of STEM education.

**Current descriptions as of September 2016

Albert Einstein Distinguished Educator Fellowship Program
2012-2013 Fellows

Einstein Fellow Name	Home State Subjects Taught Grade Level(s)	Sponsor/ Host Office Accomplishments
Steve Bartlett	Virginia Physics Grades 11–12	NSF, Directorate for Education & Human Resources, Division on Research and Learning in Formal and Informal Settings Served as a "teacher voice" with a select group of NSF Program Managers who developed concepts to incentivize STEM learning. Developed a NSF STEM Master Teacher Cohort of educators who have won awards from NSF and analyzed the early childhood learning research that NSF has funded for the past decade.
Marcia Barton	New Mexico Environmental Science Grades 9-12	NSF, Directorate for Geosciences, GEO Division of Earth Sciences Monitored the progress of national STEM working groups and participated in the National Research Council's study of "Trends and Opportunities in Federal Earth Science Education and Workforce Development," the National Center for Science Education's "Climate and Energy Literacy Summit," and on a panel at the Woodrow Wilson International Center for International Scholars on "The Next Generation of Earth System Education."
Deborah Britt	North Carolina Algebra, Mathematical Modeling, and Calculus Grades 9-12	NSF, Directorate for Computer & Information Science & Engineering, Division of Computing and Communication Foundations Served as a program coordinator with responsibilities in three grants areas: (1) Broadening Participation; (2) New Advanced Placement Computer Science Principles curricula in the K-12 schools; and (3) Computer Education Research. Broadened the interest in computer science among students by creating a video of computer scientists speaking about their work and what led to their careers and putting a "diverse and

		interesting" face on researchers in the field. Contributed many articles to the bi-weekly newsletter, *Bits & Bytes,* for secondary computer science teachers.
Chris Campbell	Louisiana Life Science, Physical Science, and Algebra Grades 7-8	NSF, Directorate for Engineering**,** Division of Industrial Innovation & Partnerships Served as a program coordinator managing the triennial independent review by a "Committee of Visitors" (COV) that included collecting reviewer recommendations from program managers through committee selection, coordinating with the panel co-chairs, and organizing and leading COV webinars, meetings, and all presentations for the panel.
Britta Culbertson [1]	Washington Earth Science Grades 9-10	NOAA, Office of Education Brought an independent view to many agency STEM related efforts, targeted outreach by providing direct assistance to 100s of educators, helped with planning of the Science on a Sphere International Workshop, updated a number of agency education websites, and created a guide for teachers to easily locate datasets and how to use them effectively in the classroom.
Remy Dou [2]	Florida Biology, Chemistry, and Physics Grades 7-12	NSF, Directorate for Education & Human Resources**,** Division of Research on Learning in Formal and Informal Settings Provided portfolio analysis for the Advancing Informal STEM Learning program to evaluate impacts of the "pathways" grants, developed a model of best practices from those awards that reapplied for follow-on funding to scale-up proven concepts, and made those accomplishments available through the NSF Library. Served as a "consumer evaluator" to the Center for Advancement of Informal Science Education, providing the teacher perspective on how to create greater utility for the instructional resources produced by the program.

Ann Drobnis [2]	Virginia Mathematics and Computer Science Grades 9-10	NSF, Directorate for Computer & Information Science & Engineering, Division of Computer and Network Systems Served as the editor for the Computer Science *Bits & Bytes* newsletter. Organized and ran the Computing Education for the 21st Century Community meeting for 200 people, and served as the point-of-contact for educators interested in including computer science education as part of K-12 STEM education curriculum.
Melissa George [2]	Indiana General Science Grades 6-8	NSF, Directorate for Biological Sciences, Division of Environmental Biology Served as a representative and resource for educational issues, coordinated aspects of outreach in K-12 schools, assisted with the merit review process, and contributed to the program portfolio analysis.
Cindy Hasselbring [2]	Michigan Mathematics Grades 9-12	NSF, Education and Human Resources Directorate, Office of the Assistant Director Served as a senior manager's representative across a number of programs tracking major issues as they relate to the synergy of STEM within the agency. Tracked and reported on science education issues both internal and external to federal government that may have a potential influence on NSF programs.
Rebecca Hite	North Carolina Biology, Chemistry, and Physics Grades 9-12	DOE, Office of Science (sponsor) Representative Danny Davis (host office) Served as a team lead on issues of primary interest to the Representative including K-12 education, STEM, Energy, Science & Technology, Telecommunications, Arts & Culture, and shared Government Oversight (relating to STEM). Prepared talking points, conferences briefings, floor remarks and speeches, and bill language. Served as the lead on constituent services related to these issues.

DaNel Hogan [2]	Idaho Physics Grade 6-12	DOE, Office of Energy Efficiency and Renewable Energy Created a formal working relationship with two major non-profits dedicated to STEM education and collaborated with them on the development of a series of short educational videos focusing on the significance and interdependence of the seven Essential Principles from the Energy Literacy.
Lynn Lahti Hommeyer [2]	District of Columbia General Science Grades 4-7	DOE, Office of Science (sponsor) Congressman Mike Honda (host office) Worked in a Congressional office where education, and STEM in particular, is a priority and contributed to efforts to draft, edit, and prepare 10 education bills (4 in the 112th Congress and 6 in the 113th Congress) introduced by the Congressman.
Joseph Isaac [1]	District of Columbia Biology, Forensic Science, Biotechnology, and Molecular Biotechnology Grades 9-12	NSF, Directorate for Biological Sciences, Division of Molecular and Cellular Biosciences Served as an outreach specialist trying to develop a broader and more diverse participant pool for NSF programs. Initiated a collaborative relationship with university researchers and high school bioscience teachers to evaluate instructional best practices in the biosciences.
Scott Kluever	Alaska General Science Grades 7-8	DOE, Office of Science (sponsor) Senator Mark Begich (host office) Researched and drafted potential education legislation: the Counseling for Career Choice Act to help school counselors' increase knowledge of local workforce, a draft proposal for focused educator professional development, and the Facilities Modernization Act that revitalizes and funds "shop training," which has lost standing as a priority.
April Lanotte [2]	Colorado	NASA, Aeronautics Research Mission Directorate

	Physics, Chemistry, Biology, and Physical Science Grades 9-12	Created and developed elements of NASA's "Museum in a Box" educational series, designed and supported two NASA/LEGO projects; provided oversight of aeronautics educational content upgrades; developed and implemented an international design challenge with Anousheh Ansari, who was the first Iranian woman in space.
Kathy Malone[1]	Pennsylvania Physics and Biology Grades 9-12	NSF, Directorate for Education and Human Resources, Division of Research on Learning in Formal and Informal Settings Researched the host program award portfolio and did a comparative study of the results with that of the Math and Science Partnership program to analyze connections in demographics, award topics and methods.
Paulo Oemig	New Mexico Physical Science and Engineering Grades 6-8	NASA, Goddard Space Flight Center Supported the *International Observe the Moon Night,* a public event at Goddard's Visitor Center, working with the GeoDome, a portable planetarium, and assisted students and parents with the exhibits. Worked with museum educators supporting efforts using NASA's unique content and established collaborations that engage underserved minority students pursuing STEM careers.
Lynn Foshee Reed [1]	Virginia Mathematics and Calculus High School	NSF, Directorate for Geosciences, Division of Polar Programs Planned and implemented the Joint Science Education Project 2013 including updating the Web site and online application, Skyped briefing sessions for selected students, and participated in the three-week expedition in Greenland teaching students Artic research, collaboration, and science communication.
Steve Ruthford	Washington Biology and AP Environmental Science	NSF, Directorate for Education & Human Resources, Division of Undergraduate Education Served on the planning committee for both

	Grades 10 - 12	the Math Science Partnership and Noyce National conferences that included meeting with professionals from across the country and in a variety of roles, organizing speakers, planning presentations, and focusing the vision and direction of the conferences themselves. Aggregated Environmental Science resources for teachers and presented them in a web based format.
Kevin Tambara	California Astronomy, Electronics, Life Science, and Physical science Middle school	NSF, Computer and Information Science and Engineering Directorate, Division of Computer and Network Systems Served as the program manager's representative tracking major issues as they related to the synergy of STEM across the program and working to increase utility of the education component. Participated as a team reviewer on site visits to research centers.
Denise Thompson	Washington Biology, AP Biology, and Astronomy High school	DOE, Office of Science (sponsor) Senator Richard Durbin (host office) Assisted committee staff in planning and implementing a Judiciary Committee Hearing investigating the "School to Prison Pipeline" relaunch of the STEM Education and Workforce Caucus and reintroduced the All STAR Act that authorized the Department of Education to provide grants to expand and replicate high performing charter schools.
Sandra Trevino	Arizona Mathematics, Geometry, Algebra, and Calculus High school	NSF, Education and Human Resources Directorate, Division of Research on Learning in Formal and Informal Settings As a former awardee of the PAEMST honor, coordinated components of the program with the review panel and awardee perspective in mind. Worked collaboratively with other program coordinators to streamline administrative processes and facilitate communication among the awardee for understanding expectations and schedules.

Pamela Truesdell [2]	Ohio Mathematics, Computer Science, and Engineering Grades 9-12	NSF, Directorate for Engineering, Division of Engineering Education & Centers Contributed to the management of the RET program by improving communication and grantee progress by developing a ListServ, facilitating online conferences, and site visits all with a goal of guiding grant accomplishments to a predictable outcome.
Sharon Webb[1]	Virginia Mathematics and Computer Science Grades 10-12	DOE, Office of Science, Workforce Development for Teachers and Scientists Served as an assistant coordinator for the National Science Bowl at the regional and national level, including editing the team biographies for the competition book, writing and reviewing competition questions, contributed to the table-top engineering challenge, as well as a large number of administrative duties (security, supervision, scheduling, and etc.) associated with hosting hundreds of middle and high school students for five days.
Sam Wheeler	North Carolina Physics and Physical Science Grades 9 -12	DOE, Office of Science, Workforce Development for Teachers and Scientists As program coordinator, reviewed and categorized, using an accepted federal agency wide criteria, the full inventory of STEM education and training programs managed by the DOE laboratories and mapped the programs to a continuum of STEM learning opportunities that frequently engage the K-12 student and teacher audience. Established a baseline of data to use as a means of comparison for future programs and evaluation needs.
John Zacharias	Florida Calculus, Physics, and Computer Science Grades 7-12	NSF, Directorate for Computer & Information Science & Engineering, Division of Advanced Cyberinfrastructure Assisted two Program Officers with their day-to-day duties including logistical planning of an annual meeting of university faculty who

		run Research Experiences for Undergraduates sites, organizing and planning for panels where the merit of proposed research projects in virtual organizations and the merit of graduate student fellowship programs were explored.

[1] First of two years
[2] Second of two years